

Remarks

Claims 1-4, 8-10, 18-23, 27-29, and 37-39 are pending in this application. Claims 1, 20, and 39 are the independent claims.

Claims 1, 4, 20, 23, and 39 have been amended. Applicants submit that support for the amendments can be found in the original disclosure, and therefore no new matter has been added. For example, the Examiner's attention is directed to page 21, lines 11-24 and page 30, lines 2-6.

The abstract of the disclosure is objected to because it is too long, containing more than 150 words, the current standard provided by rule. A new Abstract is presented and withdrawal of the objection is requested.

Claims 1-4, 8-10, 18-23, 27-29 and 37-39 stand rejected under 35.U.S.C. §102(b) as being unpatentable Jarvik. Applicants respectfully traverse this rejection for the reasons discussed below.

As recited in independent Claim 1, the present invention includes, *inter alia*, the feature of a rule memory adapted to store rules for controlling the action patterns of virtual objects. Examples of action patterns include hiding behind a still object, assembling with other targets, escaping from a player who is closing in, chasing a player running away from the target, and moving while dodging a real object. (See, e.g., p. 21, lines 20-25 of the specification.) In addition, Claim 1 recites the features of a status memory adapted to store a simulation progress state, and a computation unit adapted to determine the next action pattern of virtual object(s) as if a virtual object had its own will, based on a command input by an operator, the simulation progress status, the rules, and geometric information of a real object(s). Claim 1 further recites

generating a virtual space image on the basis of a next position/orientation of the virtual object(s) according to a determined action pattern and the position/orientation of the viewpoint position of an operator, wherein the next position/orientation of the virtual object(s) is determined based on a location relationship among the position/orientation of the viewpoint of the operator, positions(s) of the virtual object(s) and the geometric information of the real object(s).

With these features, the next action pattern and the next position/orientation of the virtual object(s) are determined in such a manner that the player (operator) feels as if virtual objects (e.g., targets) are determining their own movement patterns in consideration of their relation to real objects, including the player. This gives the player a greater feeling that the player actually exists in the mixed reality world, and a game or simulation is more enjoyable because the virtual objects behave as if the player and other real objects are there.

Moreover, the next position/orientation of a virtual object is determined after the next action pattern is determined. This means that the same input may result in different next positions/orientations of the virtual object, depending on the next action pattern that was determined. In other words, the virtual object may move differently when the next action pattern is "hide behind a still object," for example, than if the next action pattern is "escape from a player who is closing in."

Applicants submit that the cited art fails to disclose or suggest at least the above-mentioned features of the present invention. Jarvik does not disclose or suggest at least the feature of determining a next action pattern as if a virtual object had its own will based on an input operator command, a simulation progress status, rules for controlling the action patterns of virtual object(s), and geometric information of real object(s). That patent also does not disclose

or suggest at least the feature of determining a next position/orientation of a virtual object according to a determined action pattern. Indeed, Applicants submit that Jarvik does not even disclose or suggest action patterns as recited in Claim 1. Instead, in the system of Jarvik, a user input directly determines the next position/orientation of a virtual object. Consequently, the same inputs in that system lead to the same results for movement of virtual objects, since no action pattern is considered.

For the foregoing reasons, Applicants submit that the present invention recited in independent Claim 1 is patentable over the cited art. Independent Claims 20 and 39 are corresponding method and storage medium claims that recite similar features to Claim 1 and are believed to be patentable for similar reasons.

The dependent claims are believed patentable for at least the same reasons as the independent claims, as well as for the additional features they recite.

For the foregoing reasons, Applicants submit that this application is in condition for allowance. Favorable reconsideration, withdrawal of the objection and rejection set forth in the above-mentioned Office Action, and an early Notice of Allowance are requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our below-listed address.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'B. L. Klock', written over a horizontal line.

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